

## PRE-ALGEBRA SET

Name \_\_\_\_\_

### Numbers, Fractions & Percent

#### DO YOUR FIGURING HERE

- 1) Train A travels at 90 miles per hour and covers 360 miles. Train B covers the same distance but travels at 60 miles per hour. How much longer does it take Train B than Train A to cover that distance?

A. 9 hours  
B. 6 hours  
C. 4 hours  
D. 3 hours  
E. 2 hours

$$A = \frac{360}{90} = 4$$

$$B = \frac{360}{60} = 6$$

$$6 - 4 = 2$$

$$A = \frac{360}{90} = 4$$

$$B = \frac{360}{60} = 6$$

$$B_2 - A_2 = 6 - 4 = 2$$

- 2) Determine the Greatest Common Factor of 45 and 41.

A. 9  
B. 7  
C. 5  
D. 3  
E. 1

$$\begin{array}{r|rr} 5 & 45 & 41 \\ 3 & 9 & \downarrow \\ 1 & 3 & \downarrow \\ & 3 & 41 \end{array}$$

$$\begin{array}{r|rr} 5 & 45 & 41 \\ 3 & 9 & \downarrow \\ 1 & 3 & 41 \end{array}$$

- 3) What is the least number that is divisible by 5, 6 and 15?

A. 60  
B. 30  
C. 15  
D. 5  
E. 3

$$\begin{array}{ccc} 5 & 6 & 15 \\ \wedge & \wedge & \wedge \\ 5 \cdot 1 & 2 \cdot 3 & 3 \cdot 5 \end{array}$$

$$\begin{array}{r|rrr} 5 & 5 & 6 & 15 \\ 3 & 1 & \downarrow & 3 \\ & 2 & 1 & \end{array}$$

- 4) Three clocks ring once at the same time. After that, the first clock rings after every 90 minutes, the second after every 30 minutes, and third after every 60 minutes. After how many minutes will they again ring together? LCM

A. 60  
B. 90  
C. 120  
D. 180  
E. 240

$$\begin{array}{r|rrr} 90 & 2 & 3 \\ 30 & 1 & 2 \end{array}$$

- 5) In Mrs B's class,  $\frac{2}{3}$  of the students are good in Math. Of them  $\frac{1}{2}$  of them score more than 90. What fractional part of Mrs. B's class scored more than 90%?

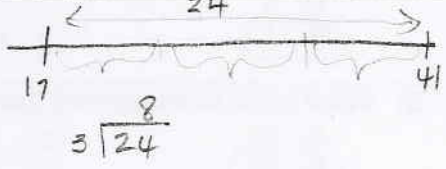
A.  $\frac{1}{3}$   
B.  $\frac{2}{5}$   
C.  $\frac{3}{5}$   
D.  $\frac{3}{4}$   
E.  $\frac{3}{6}$

$$\frac{2}{3} \cdot \frac{1}{2} = \frac{2}{6} = \frac{1}{3}$$

$$\frac{1}{2} \text{ of them } \left( \frac{2}{3} \right)$$

$$\frac{1}{2} \cdot \frac{2}{3} = \frac{2}{6} = \frac{1}{3}$$

$$\frac{2}{3} \div 2 = \frac{2}{3} \cdot \frac{1}{2} = \frac{2}{6} = \frac{1}{3}$$

|   |  |
|---|--|
| <p>6) Simplify 18/102.</p> <p>A. 6/34<br/>B. 9/51<br/>C. 2/51<br/><u>D. 3/17</u><br/>E. 3/51</p>  | $\frac{18}{102} = \frac{2 \cdot 9}{2 \cdot 51} = \frac{\cancel{2} \cdot 3 \cdot 3}{\cancel{2} \cdot 3 \cdot 17} = \frac{3}{17}$                                |
| <p>7) At the end of the night, a pizza place had <u>1/2 pizzas left over</u>. The 4 employees each took home the same amount of leftover pizza. How much pizza did each employee take home? Simplify your answer.</p> <p>A. 1/8<br/><u>B. 2</u><br/>C. 1/16<br/>D. 1/12<br/>E. 1 1/16</p>   | $\frac{1}{2} \div 4 = \frac{1}{2} \times \frac{1}{4} = \frac{1}{2 \times 4} = \frac{1}{8}$   |
| <p>8) What is 4% of 1,100?</p> <p>A. 4,400<br/>B. 222.222...<br/><u>C. 44</u><br/>D. 22.222...<br/>E. 4.4</p>   | $1,100 \times .04 = 44.00$   |
| <p>9) What 2 numbers should be placed in the blanks below so that the difference between <u>consecutive</u> numbers is the same?</p> <p>17, _____, _____, 41</p> <p>A. 23, 29<br/>B. 24, 34<br/><u>C. 25, 33</u><br/>D. 26, 35<br/>E. 27, 31</p>  |  <p>17 + 8 = 25<br/>25 + 8 = 33<br/>✓ 33 + 8 = 41 !</p>                   |
| <p>10) A shirt originally cost \$20, but during a sale its price was reduced by 15%. What is the current price of the shirt?</p> <p>A. \$3<br/>B. \$5<br/>C. \$13<br/><u>D. \$17</u><br/>E. \$23</p>  | $\begin{array}{r} \$20 \text{ reduced by } 15\% \text{ of } \$20 \\ \downarrow \quad \downarrow \\ 20 \quad - \quad .15(20) = 20 - 3 \\ \hline 17 \end{array}$ |
| <p>11) The original price of a banana in a store is \$2. During a sale, the store reduces the price by 25% and Joe buys the banana. Joe then meets his friend, Sam, who is almost faint with hunger. Seeing an opportunity, Joe raises the price of the banana 10% from the price at which he bought it, and sells it to Sam. How much does Sam pay?</p> <p>A. \$1.50<br/>B. \$1.65<br/>C. \$1.65<br/>D. \$1.75<br/>E. \$2.00</p> | $\begin{aligned} J &= 2 - .25(2) = 1.5 \\ S &= 1.5 + .10(1.5) = 1.7 \end{aligned}$   |